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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/508,809	04/07/2005	Robert George Dunster	PA20700050U-U71.12-87KL	6212

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EXAMINER	
BOECKMANN, JASON J	
ART UNIT	**PAPER NUMBER**
3752	

MAIL DATE	DELIVERY MODE
07/16/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/508,809	DUNSTER ET AL.	
	Examiner	Art Unit	
	Jason J. Boeckmann	3752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 July 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3-14, 18, 24-26, 30-33* is/are pending in the application.

4a) Of the above claim(s) *6,8,10 and 11* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3-5,7,9,12-14,18,24-26 and 30-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 September 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3-5, 7, 9, 12, 13, 14, 18, 24-26, and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terpigorjev et al. (WO 95/24274) in view of Yonnet (WO00/75741), using USPN 6,935,362 as reference.

Terpigorjev et al. shows a fire and explosion suppression system, comprising: a source of pressurized liquid extinguishing agent (1), a source of a pressurized gas (4), mist producing means (the outlet of pipe 2 in to mixing chamber 3) connected to receive a flow of the liquid extinguishing agent to produce a mist therefrom, mixing means (3) for mixing the already-produced mist into a flow of the pressurized gas to produce a discharge in the form of a two-phase mixture comprising a suspension of droplets of the mist in the pressurized gas, a first path (2) extending between the source of pressurized liquid extinguishing agent and the mist producing means for guiding the flow of the liquid extinguishing agent to the mist producing means at a mass flow rate thereof, a second path (the path that includes valve 7) extending between the source of the pressurized gas and the mixing means for guiding the flow of the pressurized gas to the mixing means at a mass flow rate thereof, means for applying a pressure of the pressurized

gas to the source of the liquid extinguishing agent, wherein the applied pressure of the pressurized gas continually reduces during the flow thereof through the second path and, but does not specifically disclose means in the first path for automatically adjusting the mass flow rate of the liquid extinguishing agent as a function of the applied pressure of the pressurized gas so as to control the ratio of the mass flow rate of the liquid extinguishing agent in the first path to the mass flow rate of the pressurized gas in the second path towards such a value as to tend to produce a constant droplet size distribution in and for substantially the duration of the discharge.

However, Yonnet shows a control valve (50) that has an inlet, out let and a control pressure port. The valve of Yonnet controls the flow of fluid between the inlet and the out let depending on the pressure at the control port. It is noted that the higher the pressure at the control port, the lower the flow rate through the valve is, and vice versa.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to add the control valve of Yonnet to the invention of Terpigorjev et al., and locate it in the first path and have its control port being connected to the second path. This modification would allow for the flow of the fluid in the first path to be dependent on the pressure of the fluid in the second path, as taught by Yonnet.

Regarding claim 3, the control means includes a means for applying the pressure of the stored gas to pressurize the liquid (the control port).

Regarding claim 5, the device of Terpigorjev also includes a third path (the path with valve 8 on it) extending between the pressurized gas and the liquid extinguishing

agent. Additionally, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to add the control valve of Yonnet to the invention of Terpigorjev et al, and locate it in the first path and have its control port being connected to the third path. This modification would allow for the flow of the fluid in the first path to be dependent on the pressure of the fluid in the second path, as taught by Yonnet

Regarding claim 7, the valve means comprises a pressure controlled proportioning valve (50) having an orifice size directly controlled by the pressure of the pressurized gas in the third path.

Regarding claim 9, it is noted that 112 6th paragraph is invoked by the term: "means for controlling the pressure of the pressurized liquid extinguishing agent." See MPEP 2181. However the device of Terpigorjev et al. as modified by Yonnet includes a functional equivalent control means; valve 36.

Regarding claims 13, 14, 25 and 26, the liquid extinguishing agent is water and a chemical substance.

Regarding claims 18, 24 and 32, the device of Terpigorjev et al. as modified by Yonnet, in its use, inherently performs all the steps and methods of claims 18, 24 and 32. It is noted that by regulating the fluid flow in the first path with the control valve (50) dependent on the pressure of the gas will inherently control the mass flow rate, of the liquid to the gas, towards a constant value during the duration of the discharge.

Regarding claims 12 and 24, the device of Terpigorjev et al. as modified by Yonnet shows a device that performs all steps of method claim 18 above, but fails to

specifically disclose that the flow of the liquid is initiated before the flow of the gas is initiated.

However, it is well known in the art that if you want to produce a mist entrained in the flow of a gas, you would need to produce the mist before you add it to the stream of gas.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention initiate the flow of mist before the flow of gas in order not to waste any gas before the mist is produced.

Regarding claim 33, the device of Terpigorjev et al. as modified by Yonnet, shows all aspects of the applicant's invention as in the rejection of claim 32 above, but fails to specifically disclose that the pipe branches to supply the liquid and the gas to a plurality of nozzles.

However, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have the pipe branch to supply the liquid and the gas to a second nozzle as well as the first nozzle, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art.

Additionally, the addition of a second nozzle would allow for more of the liquid and gas to be dispensed per unit of time and also for the liquid and gas to be dispensed over a greater area.

Response to Arguments

Applicant's arguments with respect to claims 3-5, 7, 9, 12-14, 18, 24-26 and 30-33 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason J. Boeckmann whose telephone number is (571)272-2708. The examiner can normally be reached on 8:00- 5:00, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Len Tran can be reached on (571) 272-1184. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jason J Boeckmann/
Examiner, Art Unit 3752
7/15/2010